

YERSHOV, I.M., kand.tekhn.nauk; IVANOVA, V.I., inzh.

Protection of contact net foundations and uprights from
electrolytic corrosion. Elek.i tepl.tiaga 3 no.9:18-20
S '59. (MIRA 13:2)
(Electric lines--Poles)

YERCHOV, I.M., kand.tekhn.nauk; YEVSEYEV, I.G., kand.tekhn.nauk

Protection of cables from corrosion caused by leakage currents
in voltage stepping-down circuits. Avtom. telem. i svyaz'. 4
no.5:8-10 My '60. (MIRA 13:8)
(Electric cables--Corrosion)

YERSHOV, Ivan Mikhaylovich; KATSALAPENKO, V.I., inzh., retsenzent;
NOVIKAS, M.N., inzh., red.; VERINA, G.P., tekhn. red.

[Corrosion protection of cables in Central Block Control and
communication systems] Zashchita kabelei STsB i svyazi ot korro-
zii.. Moskva, Transzheldorizdat, 1962. 127 p.

(MIRA 16:1)

(Electric cables--Corrosion)
(Railroads--Signaling--Block system)
(Railroads--Communication systems)

ZAREMBO, L.K., kand. fiz.-mat. nauk; KARPOV, A.K., inzh.; LEGOSTAYEV, P.Ya., kand. tekhn. nauk; BRODESKIY, Yu.N., kand. tekhn. nauk; KHRENOV, N.S., inzh.; KHODANOVICH, I.Ye., kand. tekhn. nauk; BRISKMAN, A.A., kand. tekhn. nauk; GORODETSKIY, V.I., inzh.; NIKITIN, A.A., inzh.; GILL', B.V., inzh.; KRAYZEL'MAN, S.M., inzh.; DZHAFAROV, M.D., inzh.; LUNEV, A.S., kand. tekhn. nauk; NIKITENKO, Ye.A., inzh.; YERSHOV, I.M., kand. tekhn. nauk; ZAYTSEV, Yu.A., inzh.; MAGAZANIK, Ya.M., inzh.; SHAROVATOV, L.P., inzh.; RABINOVICH, Z.Ya., inzh.; BIBISHEV, A.V., inzh.; ASTAKHOV, V.A., dots.; KOMYAGIN, A.F., kand. tekhn. nauk; ANDERS, V.R., inzh.; SERGOVANTSEV, V.T., kand. tekhn. nauk, dots.; UTKIN, V.V., inzh.; KUZNETSOV, P.L., inzh.; MAMAYEV, M.A., inzh.; SVYATITSKAYA, K.P., ved. red.; FEDOTOVA, I.G., tekhn. red.

[Handbook on the transportation of combustible gases] Spravochnik po transportu goriuchikh gazov. Moskva, Gostoptekhizdat, 1962. 887 p. (MIRA 15:4)
(Gas, Natural--Transportation)

YERSHOV, Ivan Mikhaylovich, kand. tekhn. nauk; PANFIL', Leonid
Semenovich, inzh.

[Protection of structures against the action of railroad
eddy currents] Zashchita sooruzhenii ot vozdeistviia bluzh-
daiushchikh tokov zheleznykh dorog. Moskva, Transport,
1965. 146 p. (MIRA 18:9)

YERSHOV, I.S.

VOLYNTSEV, Ye., zasluzhennyy uchitel' shkol Rossiyskoy Sotsialisticheskoy Federativnoy Sovetskoy Respubliki (Moscow); GOLUBEV, K. (Moscow); KISELEVA, A. (Moscow) [reviewers]; BOGDANOV, N.M.; BORISOV, S.A.; ~~ERISHOV~~ YERSHOV, I.S.; STRATILATOV, P.V. [authors].

New methodological manual for schools for the working youth ("Problems in teaching mathematics in the 5th - 10th grades of schools for the working youth." N.M.Bogdanov, S.A.Borisov, I.S.Ershov, P.V.Stratilatov. Reviewed by E.Volyntsev, K.Golubev, A.Kiseleva). (MLRA 6:12)

Mat.v shkole no.6:74-75 N-D '53.

(Mathematics--Study and teaching) (Technical education)
(Bogdanov, N.M.) (Borisov, S.A.) (Ershov, I.S.) (Stratilatov, P.V.)

YERESHOV I.S.
ORLOV, S.F., doktor tekhn. nauk; GOL'DBERG, A.M., kand. tekhn. nauk;
BELOZEROV, Ye.Ya., aspirant; YERESHOV, I.S., inzh.; LYCHEV, D.P.,
inzh.; RAVDIN, P.D.

First attempts at the skidless conveying of timber. Mekh. trud. rab.
11 no.10:6-8 0 '57. (MIRA 10:11)

(Lumber--Transportation)

VASIL'YEV, L.A.; GALANIN, A.G.; YERSHOV, I.V.; SUNTSOV, G.N.

Photoelectric shadow method of study of nonsteady-state processes.
Prib. i tekhn. eksp. 9 no.3:195-199 My-Je '64 (MIRA 18:1)

ACCESSION NR: AP4041052

S/0120/64/000/003/0195/0199

AUTHOR: Vasil'yev, L. A.; Galanin, A. G.; Yershov, I. V.; Suntsov, G. N.

TITLE: Photoelectric shadow method for investigating transient processes

SOURCE: Pribery* i tekhnika eksperimenta, no. 3, 1964, 195-199

TOPIC TAGS: transient process, aerodynamic test, shock tube, shock tunnel instrumentation

ABSTRACT: As spark shadow photography yields only one picture and as superhigh-speed cinema is technically very difficult, a new shadow method is suggested which permits obtaining a time picture on an oscillograph screen. The method, intended for aerodynamic shock-tube studies, involves an optical scheme shown in Enclosure 1. A small-size diaphragm D is placed after the Foucault knife edge H. The light passed through the diaphragm falls on a multiplier phototube M whose signal is applied to a pulsed electron oscillograph. An

Card 1/3

ACCESSION NR: AP4041052

inhomogeneity I between O_1 and O_2 causes a variation in the illumination of the diaphragm port and, therefore, is recorded by the oscillograph. A 2-slit scheme permits measuring flow speeds (of the shock front and after region). Speed of the contact surface, duration of and nonequilibrium processes in the working flow, gas glow after the shock wave, and impurity-caused glow were measured by the above method. Orig. art. has: 9 figures.

ASSOCIATION: none

SUBMITTED: 04Jun63

ENCL: 01

SUB CODE: AC

NO REF SOV: 002

OTHER: 003

Card 2/3

VASIL'YEV, L.A.; YERSHOV, I.V.

Use of the diffraction shadow method in the quantitative determination of the intensity of a plane shock wave in a model moving in a supersonic flow. Dokl. AN SSSR 157 no. 2: 317-320 J1 '64. (MIRA 17:7)

1. Predstavleno akademikom I.V.Obreimovym.

Volumes, Orig. and copies of the following documents are on file in the Bureau:

Card 179

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001962910005-8

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001962910005-8"

YERSHOV, I. Ya.

Steam turbines

Consecutively operating condensers of two turbines. Rab. energ. 2 no. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, May 1952. UNCLASSIFIED

YERSHOV, I.Ya., inzhener.

Installation of a shutter-equipped ash collector in a smokestack. Ener-
getik 1 no.1:15-16 Je '53. (MLHA 6:8)

(Ash disposal)

AD P - 3224

Subject : USSR/Electricity
Card 1/1 Pub. 29 - 9/30
Author : Yershov, I. Ya., Eng.
Title : Utilization of the heat of flue gas
Periodical : Energetik, 8, 11, Ag 1955
Abstract : The author describes briefly an arrangement for preheating water
with flue gas. One diagram.
Institution : None
Submitted : No date

YERSHOV, I.Ya., dotsent

Universal diagram I - t for peat. Izv.vys.ucheb.zav.; energ. 3
no.4:139-141 Ap '60. (MIRA 13:6)

1. Ivanovskiy khimiko-tekhnologicheskii institut. Predstavlena
kafedroy teplo tekhniki i elektrotekhniki.
(Peat)

YERSHOV, I.Ya., dotsent; KUVAYEVA, A.M., inzh.

Effect of the degree of underheating on the heat emission
coefficient in boiling. Izv.vys.ucheb.zav.; energ. 5 no.11:
84-87 N '62. (MIRA 15:12)

1. Ivanovskiy khimiko-tekhnologicheskoy institut. Predstavlena
kafedroy teplotekhniki i elektrotekhniki.
(Heat-Transmission)

ANTONOV, A.A., inzh.; YERSHOV, K.V., inzh.

Small perforated rollers for the formation of keramzit granules.
Stroi.mat. 8 no.1:29-30 Ja '62. (MIRA 15:5)
(Keramzit)

YERSHOV, L.; ZHUKOV, Yu.

Textbooks for the course on the economics of Soviet trade
("The nature of Soviet trade. System and organization of
the planning of Soviet trade. Retail turnover and its planning"
by F. IA. Oblovatskii. "Prices on consumers' goods in the
U. S.S.R." by A. G. Kulikov, N.A. Smotrina. Reviewed by L.
Ershov and IU. Zhukov). Sov. torg. 33 no.5:32-34 My '60. (MIRA 13:11)

1. Tekhnikum sovetskoy torgovli, g. Kursk.
(Russia--Commerce) (Prices)
(Smotrina, N.A.) (Oblovatskii, F. IA.) (Kulikov, A.G.)

YERSHOV, L. [Iershov, L.], kand.tekhn.nauk

Increasing the water resistance of structural gypsum. Bud.
mat. 1 konstr. 4 no.2:50-52 Mr-Ap '62. (MIRA 15:9)
(Gypsum)

YERSHOV, L.A.

Promising varieties of quince. Kons. i ov.pron. 18 no.9:19-21
S '63. (MIRA 16:9)

1. Stepnoye otdeleniye Nikitskogo botanicheskogo sada.
(Quince--Varieties)

YERSHOV, L. A.

"Special Problems of Inventorying Forrests of the Green Belt." (Dissertation for Degree of Candidate of Agricultural Sciences)Min Higher Education USSR, Leningrad Order of Lenin Forestry Academy imeni S. M. Kirov, Leningrad, 1955

SO: M-1036 28 Msr 56

YERSHOV, L. A.

USSR/Cultivated Plants - Fruits, Berries.

M-6

Abs Jour : Ref Zhur - Biol., No 7, 1958, 30046

Author : Yershov, L.A.

Inst : -

Title : The Compatibility of Separate Peach Varieties with Different Stocks.

Orig Pub : Agrobiologiya, 1957, No 2, 113-115.

Abstract : Since the peach is a new crop in the steppe portion of the Crimea, it is necessary to select the very best stocks. Study was made of the compatibility of 13 peach varieties with stocks: peach, almond, *Prunus divaricata*, and the apricot. The advantageous qualities of the apricot were determined as a stock for the peach; it increased frost and drought resistance, the compatibility with the grafted varieties, especially the Nikitskiy and Albert and partially with the Ak-Shoftalyu No 3 variety.

Card 1/1

*State Nikitskiy botanicheskiy sad.
im V. M. Molotov, g. Yalta.*

USSR/Cultivated Plants. Fruit Trees. Small Fruit Plants.

M

. Abs Jour: Ref Zhur-Biol., No 17, 1958, 77809.

trees not transplanted. Trees with a deep root
system are more resistant to drought.

Card : 2/2

USSR/Cultivated Plants - Fruits. Berries.

M.

Abs Jour : Ref Zhur - Biol., No 10, 1958, 44314

Kavkazsky ranniy, Krasnoshchekiy, Concurrent, Keldanik,
Michurincta, Podarok Krima, Pushistiy ranniy, Russki,
Rot front, Tourist, A. Chekhov, V. Chkalov, Elberta,
and Yubileyniy. The following grow well on the apricot:
Veteran, Greensboro, Zolotoi yubilei, Krasnoshchekiy,
Sochniy and A. Chekhov. -- P.KH. Kiskin

Card 2/2

YERSHOV L.A.

COUNTRY : USSR M-8
CATEGORY :

ABR. JOUR. : RZBiol., No. 1/8 1958⁸, No. 27227

AUTHOR : Yershov, L. ...: Tachenko, P. I.
INST. : VNIITSKIY State Botanical Garden
TITLE : Winter Hardy Apricot Nursery Stock for
Siberian Steppes Areas.

GRIG. PUB. : Byul. nauchn. inform. Gos. Niditsk. Botan.
soc., 1957, No 5-6, 18-19

ABSTRACT : The variety Dzlankovskiy kumny is highly
resistant to spring freeze, the fruit weighs up to 45 g,
ripening is 10-12 days earlier than Krasnokhokhiy variety.
Nursery stock No 2 and No 4 are also worthy of other variety
trials.

CARD: //

USSR/Cultivated Plants - Fruits. Berries.

M-6

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91844

of the above ground and root systems by the autumn of the second year of life. The roots in the transplanted plants were located closer to the surface.

Card 2/2

Country : USSR
CATEGORY :

M-8

ABS. JOUR. : RABiol., No. 1/8, 1958, No. 37433

AUTHOR : Yashin, I. A.
INST. : Nikitskiy State Botanical Garden
TITLE : Effect of Grafting Stock on Winter Hardiness of Peach Trees

ORIG. PUB. : Byul. nauchn. Inform. Gos. Nikitsk. botan. sad, 1957, No 5-6, 12-13

ABSTRACT : In the steppe zone of Crimea, after the severe winter of 1953/54, winterkill of Alberta variety, two years old, was of 36% of those grafted on Prunus divaricatus, 25% -- on peach, 32% -- on almond, 11% -- on apricot. Among trees 10 years old, the winterkill was limited to those grafted on almond, and in these instances damage to the root system was also observed. On 1-year old trees injury of one-year old shoots was noted among those grafted on peach.

CARD: //

YEREMOV, L.A., Cand Agr Sci -- (diss) "Peculiarities of the
growth and fruit ^{ing} ~~bearing~~ of st ~~the~~ peach in various ^{wildlings} uncultivated
plants under conditions of the Crimean steppes." Kishinev, 1958,
20 pp (Min of Agr USSR. Kishinev Agr Inst im M.V. Franze)
100 copies (KL, 27-58, 114)

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- 168 -

USSR/Cultivated Plants - Fruits. Berries.

M-6

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91840

Author : Yershov, L.A.

Inst : Nikitsk Botanical Garden

Title : Wild Peach in the Steppe Zone of Crimea.

Orig Pub : Vestn. s.-kh. nauki, 1958, No 2, 22-32.

Abstract : In the experiments made at the Department of Steppe Horticulture of the Nikitsk Botanical Garden under non-irrigated conditions the compatibility of a series of varieties of peach with peaches, with almonds and with plums was studied. The best components are indicated. It is noted that compatibility changes, depending on the natural conditions of the region. Peach plants grafted on peach and apricot were distinguished by the most vigorous growth. The growth ended earlier in grafts on plums, then almonds and apricots

Card 1/2

USSR/Cultivated Plants - Fruits. Berries.

M-6

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91840

and later in grafts on peaches. The strongest root systems were developed by plants grafted on peach and apricot and the least developed root systems in grafts on almond and plum. In the yearly cycle of root growth 4 periods were distinguished; the temperature conditions of their progress are given. The most vigorous shoot growth was observed in June after the rate of the root growth became lower. With a temperature drop to -34° plants grafted on apricot were found to be resistant. On all stocks the first yield was noted on the third year after planting. The highest yield was obtained from trees grafted on peach and apricot. Stocks which offer the greatest promise for peaches in the steppe zone of the Crimea are the apricot and peach. -- I.K. Fortunatov.

Card 2/2

USSR / Cultivated Plants. Fruits, Berries, Nutbearing, M-6
Teas.

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6431

1952-1955. Excavations were carried out according to the "monolith" method and the active roots were studied according to the "arbitrary monolith" method. Plants grafted on peach and apricot trees produced a stronger root system starting in their first years of growth on non-irrigated, dark chestnut, weakly saliferous soil. The main mass of the root system on all studied stocks was disposed in layers A and B. The degree of development of the root system is closely connected with the growth norm of the surface organs. 4 subsequent periods in the annual growth cycle of the root system of the stocks were established. The spring-summer maximum of growth of roots

Card 2/4

USSR / Cultivated Plants. Fruits, Berries, Nutbearing, M-6
Teas.

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6431

the soil temperature down to $+5^{\circ}$. The growth of the root system stops in the winter when the soil temperature descends down to $+2^{\circ}$. Soil watering and the introduction of fertilizers should be coordinated with the beginning of the accelerated period of growth of the root system of every stock species. It is necessary to carry out the fall plowing in the peach orchard before the beginning of the period of growth of active roots in the fall, but not later than 1 - $1\frac{1}{2}$ months before the end of this period. -- I. K. Fortunatov

Card 4/4

YERSHOV, L.A., kand. sel'skokhoz. nauk

Pyrus elaeagnifolia as a possible graft stock for pear.

Agrobiologiya no.2:311-314 Mr-Apr '64.

(MIRA 17:6)

1. Gosudarstvennyy Nikitskiy botanicheskiy sad, g. Yalta.

1ST AND 2ND ORDERS										PROCESSING AND PROPERTIES INDEX										3RD AND 4TH ORDERS									
<p><i>Handwritten: 10</i></p> <p><i>Handwritten: 20</i></p> <p>The cement plant laboratory. L. D. Krulov. Tsimeni 2, No. 9, 42-7 (1934).—Data on production control at a plant near Leningrad. R. E. Stefanowsky</p>																													
<p>ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																													
<p>100000 HSP ONLY USE</p>										<p>EXTRACTS</p>										<p>EXTRACTION</p>									
<p>100000 HSP ONLY USE</p>										<p>EXTRACTS</p>										<p>EXTRACTION</p>									

Pozzolanic cement with additions of the by-product from the production of aluminum sulfate from clay. 1. D. Pishov and M. S. Kuroshov. *Tramoi 3*, No. 3, 7 (1953). The material, accumulated during a series of years at a chem. plant, had the following composition: loss on ignition 0.13-7.0%, SiO_2 60.00-68.50, Fe_2O_3 2.73-2.60, Al_2O_3 12.07-15.00, CaO 1.74-0.30, MgO 0.10-0.61, SO_3 8.17-4.00. It was added to portland cement clinker together with 3% of gypsum. Best results were obtained with an addn. of 25-30%. The cement obtained showed accelerated setting and a decrease of mech. strength as compared with pure portland cement at early setting periods and an increase at later periods. An increase of CaO in the clinker led to increased mech. strength. The vol. wt. decreased. Insufficiently burned clinker could be improved by the addn. of a larger amt. (up to 40%) of the by-product, which should be dried at 200-300°.

R. R. Stefanovsky

ca

Control of additions in portland cement manufacture.
L. D. Ershov. *Tekhnika*, No. 5, 37-9(1935).—The
Thymet method (C. A. 21, 162A) of rapid detn. of CaO
was used. From the chemical analysis of the different
constituents of the charge a table showing the amount
of CaO for every percentage of addna. was computed; thus
the control is limited to CaO detn. E. E. Stefanovsky

20

ASB-56A METALLURGICAL LITERATURE CLASSIFICATION

YERSHOV, L. D.

Primeneniye Slantsev V Promyshlennosti Vyazhushchikh Materialov, Goryuchiye
Slantsy, 1935, No 4, 77

SO: Goryuchiye Slantsy, 1934-35, TN 871.
3.74

The acceleration of hardening of pozzolanic portland cements. L. D. Ershov. *Tekhn. S. No. 8, 15-22 (1937); cf. Tekh. S. No. 6/7 (1933); 2, No. 3 (1934).*—A review of recent work. Gypsum and CaCl_2 have a selective action on the physico-mechanical properties of pozzolanic portland cement. CaCl_2 increases considerably the crushing strength, improves the tensile strength.

R. Stefanowicz

H. Steinhilber

ASMSLA METALLURGICAL LITERATURE CLASSIFICATION

2004 1 10 14:30

END AND NO FURTHER

821187048

11001 4-24-12

014121 CMC CMY ASA

20

Comparative investigation of Ferrari pozzolanic port-
land cements and those of the "Komsomolets" cement
plant. L. D. Bishov. *Tsement* 6, No. 45, 31-41
(1960). R. R. Stefanovsky

ASB-51A DETAILLURGICAL LITERATURE CLASSIFICATION

[illegible]

The characterization of portland cement. I. D. Eshov, *Przem. Strojil. Material* 1940, No. 2, 69-71.

The increase of the mechanical strength with time can be expressed by a modulus of intensity expressing the ratio of alite to the belite content in percentage. This modulus (M_t) for quickly hardening cement with a high initial strength should be 3.0 or more. For typical belite cements M_t must not exceed 0.5. The heat evolved during hardening should be expressed by a modulus of exothermy (M_e) changing in a direct relation to the ratio alite + 3CaO - Al_2O_3 belite + brownmillerite. For cements that evolve less than 70 cal./g. after 28 days M_e should be 70 to 100 cal./g.; at $M_e = 0.35$ to 1.8 the heat evolved is 70 to 100 cal./g.; at M_e exceeding 1.8 it exceeds 100 cal./g. B. E. H.

ASB-3LA METALLURGICAL LITERATURE CLASSIFICATION

<p>Effect of titanium dioxide on portland cement... I. II.</p> <p>Mrshay. <i>Proc. Soviet. Material. 2, No. 10-11, 20-31 (1960).</i>—Addn. of not over 5% TiO_2 to the batch improves somewhat the physicochemical properties of cement. More than 5% is harmful. In the burning process, the Ca compds. of TiO_2 are included in the basic clinker Ca silicates. At 3 to 5% of TiO_2 no change in optical characteristics of silite and belite is observed. At 8 to 10% there is found a considerable change in optical properties and also a change in hydraulic and physico-technical properties.</p> <p>H. R. Serfannov.</p>	
<p>ASS-51A METALLURGICAL LITERATURE CLASSIFICATION</p>	
<p>FROM DIVISION</p>	<p>RECEIVED</p>
<p>DATE</p>	<p>BY</p>

YERSHOV, L.D.

Cement. Patent U.S.S.R. 78,812, Dec.31, 1949.
(CA 47 no.19:10195 '53)

RESEARCH, S. D.

Chemical Abst.
Vol. 48 No. 6
Mar. 25, 1954
Cement, Concrete, and Other
Building Materials

✓ Air-resistant lime-pozzolanic cements. I. D. Petrov. (U)
Ukrain. Khim. Zhur. 17, 443-71 (1951) (in Russian).
Insufficient air stability of lime-pozzolanic cements can be
explained by the fact that the reaction between active silica
and Ca(OH)_2 , on one hand, and with Ca(OH)_2 , on the other
hand, proceeds very slowly and only during prolonged pres-
ence of water; with the disappearance of water, the reaction
ceases and rise in strength ceases. Further, there follows a
vol. contraction of the colloidal products resulting in rupture
of inter bond and loss of strength. Use of clay slip results
in retention of water in the pores, prevents entry of atm.
 CO_2 , and thereby raises air resistance. H. Z. K.

YERSHOV, L., kandidat tekhnicheskikh nauk; KASHPEROVSKAYA, O., inzhener.

Obtaining local binding agents by means of vibration milling. Stroi.
mat. otdel. i konstr. 1 no.9:11-13 S'55. (MIRA 9:1)
(Binding materials)

117 \checkmark Read-hardening Portland cement with phosphates. In 42
 English, *Tramaj* 21, No. 4, 18-23 (1955). In the presence
 of $\text{CaO} \cdot \text{P}_2\text{O}_5$ the following form: $\text{CaO} \cdot \text{P}_2\text{O}_5$ at 550-600°,
 $2\text{CaO} \cdot \text{P}_2\text{O}_5$ at 700-800°, and $3\text{CaO} \cdot \text{P}_2\text{O}_5$ and $4\text{CaO} \cdot \text{P}_2\text{O}_5$ at
 1100-1200°. Monophosphate has no hydraulic characteris-
 tics, diphosphate has weak hydraulic characteristics, tri-
 and tetraphosphates hydrate intensively. Addition of small
 amounts of phosphates has an intensive effect on hardening and increase
 in strength of Portland cement. Addition of 1.2-1.3% P_2O_5
 increases 24 hr strength 5 fold, which corresponds to 7 fold
 in strength of original cement. S. Z. Khatunov, ...

YERSHOV, L.D.; CHEKHOVOY, N., vedushchiy redaktor; PATSALYUK, P., tekhnicheskii redaktor

[Quick-setting cement] Bystrotverdeiushchie tsementy. Kiev, Gos.
izd-vo tekhn. lit-ry USSR, 1956. 199 p. (MLRA 10:2)
(Cement)

PHASE I BOOK EXPLOITATION 1032

Yershov, Leonid Davidovich, Candidate of Technical Sciences, and Kashperovskaya,
Ol'ga Pavlovna, Engineer

Vyazhushchiye materialy i izdeliya na osnove vibropomola (Binding Materials
and Products Made With Vibration-crushed Base) Kiyev, Gosstroyizdat USSR,
1957. 79 p. (Series: V pomoshch' inzheneru-stroitel'ny i arkhitektoru)
6,500 copies printed.

Ed.: Andrushchenko, V.; Tech.: Ioakimis, A.

PURPOSE: This book is intended for construction engineers and architects.

COVERAGE: The author describes the construction and working principle of the
M-200 vibro-crusher giving mechanical diagrams of the unit. The technology of
the local production of binding materials and construction products from vibra-
tion-crushed materials and the wet and dry crushing of cement in vibro-
crushers is also covered. The book also contains information on the quality
control of raw materials and the finished product. No personalities are
mentioned. There are 4 references, all Soviet.

Card 1/2

Binding Materials and (Cont.)

1032

TABLE OF CONTENTS:

Introduction

3

1. The construction of the M-200 vibro-crusher
2. Mechanical diagrams of vibro-crushers
3. Production of local binding materials
4. The manufacture of wall blocks and case tile
5. Wet and dry crushing of cement in vibro-crushers
6. Production control

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Bibliography

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AVAILABLE: Library of Congress

Card 2/2

BK/gmp
1/23/59

YERSHOV, L.D., kand.tekhn.nauk; CHERNYSHDEV, G.S., inzh.; LUKASHENKO, I.A.,
inzh.; UDOVIK, L.N., inzh.; LESHCHINA, A.S., inzh.; SAS, Ye.Ya.,
inzh.. Prinimali uchastiye: BORTNIK, S.P., inzh.; EMIL'BOYM, P.L.,
inzh.; INOSOVA, N.A., LUKASHENKO, I.A., inzh., red.

[Instructions for manufacturing three-step blocks for arched roofs
made without forms] Instruktivnye materialy po proizvodstvu
trekhstupenchatykh blokov dlia bezopalubochnykh svodchatykh
pokrytii. Kiev, Biuro tekhn.informatsii NIISK ASIA USSR, 1958.
35 p. (MIRA 12:4)

1. Akademiya budivnytstva i arkhitektury URSR. Instytut budivel'nykh
materialiv i vyrobiv.

(Building blocks)

(Roofs)

15(6)

SOV/101-59-4-4/10

AUTHORS: Yershov, L.D. and Kashperovskaya, O.P.

TITLE: Melted Cements

PERIODICAL: Tsement, 1959, Nr 4, pp 14-16 (USSR)

ABSTRACT: The authors review the possibility of obtaining cement from blast furnace slags, melted at high temperature. They state that obviously the mineral-petrographic properties of the solidified cement slag and of the cement clinker will differ. The experimental melting materials were either usual cement components or blast furnace slag with some additions. For fusion of various cement samples an oxyacetylene flame has been used. Table 1 shows the composition of the samples of portland cement and table 2 shows the strength of that cement after various periods of setting. Table 3 shows the composition of aluminous mixture samples to be melted, and table 4 gives the strength of the obtained cement after various periods of setting.

Card 1/3

SOV/101-59-4-4/10

Melted Cements

For preparation of a cement mixture as shown in table 5, blast furnace slag was used, originating from the Zaporozhstal' (Zaporozh'ye Steel) plant. Table 6 gives the strength of cement obtained from the above melted mixture after various periods of setting. Finally, table 7 shows the strength data obtained from cement produced of clinker, originating from the Nikolayevskiy tsementnyy zavod (the Nikolayev Cement Plant), and melted at 1780 to 1810° C after various periods of setting. For comparison, the above table contains strength data of cement obtained from the same "500" clinker but produced by conventional means. Photograph 1 (Figure 1) and photograph 2 (Figure 2), show results of petrographic investigations of both kinds of clinker, i.e., of melted clinker and clinker produced by the usual means, respectively. The authors conclude that portland cement obtained by the melting method differ by

Card 2/3

SCV/101-59-4-4/10

Melted Cements

their mineral-petrographic structure from cements obtained by the usual calcination methods. There are 2 photographs and 7 tables.

Card 3/3

YERSHOV, L. [Ikrshov, L.], kand.tekhn.nauk

Binding materials for rural construction. Sil'.bud. 10 no.3:19-20
Mr '60, (MIRA 13:6)
(Ukrains--Binding materials)

YERSHOV, L.D.

Cement made of molten slags. TScement 26 no.3:14-16 My-Je
'60. (MIRA 13:7)

(Cement) (Slag)

ZHUKOV, A.V. (Kiyev); YERSHOV, L.D. (Kiyev)

Complete utilization of quarry materials. Stroi. mat. 9 no.6:8
Ja '63. (MIRA 17:8)

YERSHOV, L.K.

135-6-6/13

SUBJECT: USSR/Welding

AUTHORS: Yershov, L.K., Engineer; Burkhutov, A.N., Engineer, and Shirokova, Z. I., Engineer.

TITLE: Automatic Welding of a Household Refrigerator Casing under Carbon Dioxide (Avtomaticheskaya svarka kozhukha kompressora demashnego kholedil'nika v srede uglekislogo gaza).

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, # 6, pp 12-15 (USSR).

ABSTRACT: The technology of welding and a new welding device used at the Moskva Automobile Plant imeni Likhachev in the production of refrigerators, are described. Before 1956, the circular welds on the tubular casing (for the motor and compressor) were made with the use of high-grade electrodes "42A" with coating "YI-2" which corresponded to all technical conditions imposed, but the process was expensive and tedious. The new welding machine has been developed at the plant imeni Likhachev after an extensive experimental work during 1954-55 with direct consultation with candidate of Technical Sciences A.M. Novozhilev of "TsNIITMASH". It welds simultaneously two circular welds with a melting electrode in carbon dioxide medium and consists of

Card 1/2

135-6-6/13

TITLE: Automatic Welding of a Household Refrigerator Casing under Carbon Dioxide (Avtomaticheskaya svarka kozhukha kompressora domashnego kholedil'nika v srede uglekislogo gaza).

the semi-automatic welder "ИДУ-500" of the "Elektrik"-plant which was adapted to this operation.

The construction of the refrigerator casing, the technology of welding, the electric circuit diagram, the operation of the welding machine, and the construction of a special torch used, are described in detail.

The article contains 2 photographs, 2 schemes, 1 diagram, and 1 drawing.

ASSOCIATION: Moskva Automobile Plant imeni Likhachev.
(Moskovskiy Avtozavod imeni Likhacheva)

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress.

Card 2/2

YERSHOV, L.K.

p.2

25(1); 25(5)

PHASE I BOOK EXPLOITATION

SOV/3279

RSFSR. Moskovskiy gorodskoy ekonomicheskoy administrativnyy rayon.
Sovet narodnogo khozyaystva.

Mekhanizatsiya i avtomatizatsiya svarki; iz opyta Moskovskogo avtomobil'nogo zavoda im. I.A. Likhacheva. (Welding Mechanization and Automation; the Practice of the Moscow Automobile Plant im. I.A. Likhachev) Moscow, Tsentr. byuro tekhn. informatsii, 1958. 21 p. (Series: Dostizheniya nauki i tekhniki) 2,200 copies printed.

Executive Engineer: V.F. Tyurin; Ed.: Ye.A. Gorbuleva; Tech. Ed.: Ye.A. Torshina.

PURPOSE: This book is intended for engineers and technicians concerned with the problems of the mechanization and automation of welding.

COVERAGE: This book contains two articles on the mechanization and automation of welding. The first article discusses automatic welding of a home refrigerator compressor housing, using

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SOV/3279

Welding Mechanization (Cont.)

carbon dioxide as a protective atmosphere. Among the topics considered are: properties of welding seams, external characteristic of a welding generator, construction of a welding torch, and construction and operation of an automatic welding station. The second article discusses automation and mechanization of welding and assembly of air containers for ZIL-type motor vehicles. Among the topics considered are: the technological process of assembly and welding, welding of a longitudinal seam, welding brackets to bottoms, assembly of an air container, and welding circular seams of a container. There are no references.

TABLE OF CONTENTS:

Yershov, L.K., Z.I. Shirokova, A.N. Burkhutov. Automatic Welding of a Domestic Refrigerator Compressor Housing in a Protective Atmosphere of Carbon Dioxide.

Yershov, L.K., A.N. Burkhutov. Automation and Mechanization of

Card 2/3

Welding Mechanization (Cont.)

SOV/3279

Assembling and Welding the Air Containers of ZIL-make Motor
Vehicles.

AVAILABLE: Library of Congress (TS 227 .M33)

Card 3/3

AC/jb
4-4-60

SOV-135-58-11-7/21

AUTHORS: Yershov, L.K., Shirokova, Z.I., Burkhutov, A.M., and Yakovlev, N.I., Engineers

TITLE: The Welding by Electric Riveting in Carbon Dioxide of Moulding Chain Links (Svarka zven'yev formuyushchikh tsepey elektro-zaklepkami v srede uglekislogo gaza)

PERIODICAL: Svarochnoye proizvodstvo, 1958, Nr 11, pp 17-19 (USSR)

ABSTRACT: Information is presented on a method of the electric riveting in carbon dioxide of moulding chain links, used in the production of large-size concrete plates. For this purpose TsNIITMASH designed a special device which consists of the "ADS-500" type automat, a special welding torch, a support, a gas feed point and a "PS-600" type transformer. The modernization of the electric circuit of the described device consists in the control of the welding-rod feed by a "RVE-20" type electronic time-relay. The device and its operation are described in detail and are illustrated by photographs and diagrams.

Card 1/2

SC7-135-56-11-7/21

The Welding by Electric Riveting in Carbon Dioxide of Moulding Chain Links

There are 5 photos, 1 electric circuit diagram, and 2 diagrams.

ASSOCIATION: Moskovskiy avtozavod im. Likhacheva (Moscow Automobile Plant imeni Likhachev)

1. Chains—Arc welding
2. Arc welding—Equipment
3. Carbon dioxide—Applications

Card 2/2

BOBRINSKIY, Yu.N.; YERSHOV, L.K.; CORBUNOVA, Ye.A., red.; TORSHINA,
Ye.A., tekhn. red.

[Resistance welding of metals; from work practices of the
Likhachev Automobile Plant] Kontaktnaya svarka metallov; iz
opyta raboty avtozavoda im. Likhacheva. Moskva, TSentr.
biuro tekhn. informatsii, 1959. 51 p. (MIRA 15:1)
(Electric welding)

S/135/60/000/007/013/014
A006/A002

AUTHOR: Yershov, L.K., Engineer

TITLE: Scientific-Technical Conference on the Organization of High-Quality Welding at ZIL

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 7, p. 42

TEXT: The Conference on the organization of high-quality welding at ZIL was convened in Moscow from 16-18 February, 1960. The Conference was organized by the welding section of the NTO for the machinebuilding industry and the GNTK pri Sovete Ministrov RSFSR 'GNTK at the RSFSR Council of Ministers. The Conference was attended by 235 representatives from 72 plants and organizations. Sixteen papers and reports were heard. The Conference was opened by an introductory paper delivered by K.V. Stroganov, Chief Engineer of ZIL, who reported on the measures to be taken for developing the welding practice at the plant. V.Ya. Dubovestkiy, representing the Institut elektro svarki imeni Ye.O. Patona AN USSR (Institute of Electric Welding imeni Ye.O. Paton, AS UkrSSR), reported on problems connected with the further development of welding engineering in industry. F.S. Reznichenko, representative of GNTK at the RSFSR Council of Ministers, delivered a paper on the development of welding engineering in automobile building during the Seven-Year-Plan.

Card 1/2

9/135/60/000/007/013/014
A006/A002

Scientific-Technical Conference on the Organization of High-Quality Welding at ZIL

The author, head of the central welding laboratory of ZIL, presented information on requirements to welding engineering and on organizational problems. G.I. Samsonov, head of the ZIL press department, G.D. Sviderskiy, Deputy head of the household refrigerator shop, and M.M. Fishkis, head of the electroslog welding office, reported on the outlooks of organizing a department for high-quality welding production at the plant. N.A. Chuvakov, head of the designing office of welding, I.L. Drapkin and A.Va. Yakushinskiy, representatives from the "Elektrik" Plant, reported on new designs and systems and on the operation of multi-electrode machines and automated lines for assembly and welding of cabins. N.M. Nikitinykh, head of the welding department of the Baltiyskiy zavod (Baltic Plant), A.V. Shadrin, chief welding operator of the Kolomenskiy teplovozostroitel'nyy zavod (Kolonna Locomotive Building Plant), communicated their experiences in the organization of high-quality welding practice. The reports were followed by a discussion. The Conference approved the trend of work carried out at ZIL.

ASSOCIATION: ZIL

Card 2/2

YERSHOV, L.K., inzh.; CHISTYAKOV, Ye.N., inzh.; KUTKOVSKIY, S.I., kand.tekhn.
nauk

Comparative resistance of electrode alloys during spot welding. Svar.
proizv. no.10:24-26 0 '60. (MIRA 13:9)

1. Moskovskiy avtozavod im. Likhacheva (for Chistyakov).
(Welding rods)

VLADIMIRSKIY, T.A., doktor tekhn.nauk; VROBLEVSKIY, R.V., inzh.;
 GLEBOV, L.V., inzh.; GODIN, V.M., kand.tekhn.nauk; GUZOV,
 S.G., inzh.; GULIYAEV, A.I., inzh.; YERSHOV, I.K., inzh.;
 KOCHANOVSKIY, N.Ya., kand.tekhn.nauk; LYUBAVSKIY, K.V., prof.,
 doktor tekhn.nauk; PATON, B.Ye., akademik, prof., doktor tekhn.
 nauk; RABINOVICH, I.Ya., kand.tekhn.nauk; RADASHKOVICH, I.M.,
 inzh.; RYKALIN, N.N., prof., doktor tekhn.nauk; SPETTOR, O.Sh.,
 inzh.; KHRENOV, K.K., akademik, prof., doktor tekhn.nauk;
 CHERNYAK, V.S., inzh.; CHULOSENIKOV, P.L., inzh.; SHCHERSHOROV,
 M.Kh., kand.tekhn.nauk; BRATKOVA, O.N., prof., doktor tekhn.nauk,
 nauchnyy red.; ERINBERG, I.L., kand.tekhn.nauk, nauchnyy red.;
 GEL'MAN, A.S., prof., doktor tekhn.nauk, nauchnyy red.; KONDRATOVICH,
 V.M., inzh.; nauchnyy red.; KRASOVSKIY, A.I., kand.tekhn.nauk,
 nauchnyy red.; SKAKUN, G.F., kand.tekhn.nauk; nauchnyy red.;
 SOKOLOV, Ye.V., inzh., red.; IVANOVA, K.N., inzh., red., izd-va;
 SOKOLOVA, T.F., tekhn.red.

[Welding handbook] Spravochnik po svark. Moskva, Gos.nauchno-
 tekhn.izd-vo mashinostroit.lit-ry. Vol.1. 1960. 556 p.
 (MIRA 14:1)

1. AN USSR (for Paton, Khrenov). 2. Chleny-korrespondenty AN SSSR
 (for Rykalin, Khrenov).
 (Welding--Handbooks, manuals, etc.)

YERSHOV, L.K.; GORIN, F.I.; AKULOV, Ye.F., red.; KIREYEV, M.I., red.;
NOVIKOV, V.K., red.; SAVEL'YEV, V.I., red.; CHUMAKOV, N.M., red.;
KAGANOV, N.L., red.; LARIONOV, G.Ye., tekhn. red.

[Economical use of electricity in welding] Ekonomika elektroenergii
v svarochnom proizvodstve. Moskva, Gos.energ.izd-vo, 1961. 94 p.
(MIRA 14:12)

(Electric welding)

YERSHOV, L.K., inah.

Organization of model production welding at the Likhachev Automobile
Plant. Svar. proizv. no.2:15-20 F '61. (MIRA 14:1)
(Moscow—Automobile industry)
(Welding)

YERSHOV, L.K.

Saving electric power in welding shops. Avt.prom. 28 no.8:36-38
Ag '62. (MDRA 16:3)

1. Moskovskiy avtozavod imeni Likhacheva.
(Electric welding)

BLOSHKIN, Ye.G., inzh.; YERSHOV, L.K., inzh.

Introducing the built-up welding of dies. Svar.proizv, no.1:26-28
Ja '62. (MIRA 15:3)

1. Moskovskiy opytный svarochnyy zavod (for Bloshkin).
2. Moskovskiy avtozavod im. Likhacheva (for Yershov).
(Dies(Metalworking)--Maintenance and repair)

YERSHOV, L.V.

124-58-6-6992D

Translation from: Referativnyy zhurnal, Mekhanika 1958, Nr 6, p 105 (USSR)

AUTHOR: Yershov, L. V.

TITLE: The Elastic-plastic State of Nearly Circular Thick-walled Tubes
(Uprugo-plasticheskoye sostoyaniye tolstostennykh trub, blizkikh
k krugovym)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree
of Candidate of Physical and Mathematical Sciences, presented
to the MGU (Moscow State University), Moscow, 1957.

ASSOCIATION: MGU (Moscow State University), Moscow.

1. Pipes--Plasticity 2. Pipes--Elasticity

Card 1/1

YERSHOV, L.V.

SOV/124-58-5-5784

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 5. p 122 (USSR)

AUTHORS: Yershov, L. V., Ivlev, D. D.

TITLE: Elastic-plastic Condition of a Tapered Pipe Under the Action of Internal Pressure (Uprugo-plasticheskoye sostoyaniye konicheskoy truby, nakhodyashcheysya pod deystviyem vnutrennego davleniya)

PERIODICAL: Vestn. Mosk. un-ta Ser. matem., mekhan., astron., fiz., khimii, 1957, Nr 2, pp 51-52

ABSTRACT: Bibliographic entry

1. Pipes--Elasticity
2. Pipes--Plasticity
3. Pipes--Pressure

Card 1/1

AUTHORS: Yershov, L.V. and Ivlev, D.D. (Moscow). 24-7-18/28

TITLE: Elastic-plastic stress state of a hollow thick walled toroid subjected to the effect of internal pressure.
(Uprugo-plasticheskoye napryazhennoye sostoyaniye pologo tolstostennogo tora, nakhodyashchegosya pod deystviyem vnutrennego davleniya).

PERIODICAL: "Izvestiya Akademii Nauk, Otdeleniye Tekhnicheskikh Nauk"
(Bulletin of the Ac.Sc., Technical Sciences Section),
1957, No.7, pp.129-131 (U.S.S.R.)

ABSTRACT: The problem is solved in the linear formulation on the basis of the assumption that the toroid curvature is small. The toroid under consideration is assumed as being formed by the rotation of a ring with the radii a and b about some axis located in the plane of the ring.
1/1 There is one Slavic reference.

SUBMITTED: April 22, 1957.

AVAILABLE:

YERSHOV, L. V.

AUTHORS: Yershov, L. V. and Ivlev, D. D. (Moscow). 24-8-26/34

TITLE: On buckling of a thick walled tube subjected to the effect of internal pressure. (O vypuchivani tolstostennoy truby, nakhodyashcheyasya pod deystviyem vnutrennego davleniya).

PERIODICAL: "Izvestiya Akademii Nauk, Otdeleniye Tekhnicheskikh Nauk" (Bulletin of the Ac.Sc., Technical Sciences Section), 1957, No.8, pp.149-152 (U.S.S.R.)

ABSTRACT: The problem is considered of buckling of thick walled tubes in the case of plane deformation under the effect of internal pressure. Tubes are investigated which are made of material which gets work hardened, using the theory of small elastic-plastic deformations and also tubes made of ideally plastic material. It is assumed that the load is sufficiently intensive to be able to disregard the elastic load relief of the tube during buckling. A tube made of ideally plastic material will lose its stability at a lower internal pressure than that at which it will lose the carrying capacity and, therefore, the qualitative picture of the plastic flow of material of a circular tube will be near to that described in an earlier paper of the author (4). There are 2 figures and 5 Slavic references.

Card
1/1

SUBMITTED: December 28, 1956.

AVAILABLE: Library of Congress

1-5/10, 4
AUTHORS: Yershov, L.V. and Ivlev, D. D. (Moscow). 24-9-22/33

TITLE: Elastic-plastic state of an elliptical tube subjected to the effects of internal pressure. (Uprugo-plasticheskoye sostoyaniye ellipticheskoy truby, nakhodyashcheyssya pod deystviyem vnutrennego davleniya).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1957, No.9, pp. 130-134 (USSR)

ABSTRACT: The elastic-plastic stresses and strains are investigated in a tube with a small ellipticity for plane deformation subjected to an internal pressure. The problem of loss of carrying capacity of such tubes is also considered. The solution is sought near the known axis-symmetric stress state of a circular tube subjected to an equal internal pressure in the case of plane deformation, using formulae from the book "Theory of Plasticity" of Sokolovskiy, V.V. (eq.1.1.1).

There are 2 figures and 2 Slavic references.

SUBMITTED: February 5, 1957.

AVAILABLE: Library of Congress.

Card 1/1

YERSHOV, L.V.; IVLEV, D.D.

Elastic and plastic conditions of a conical tube under the
action of an inside pressure. Vest.Mosk.un.Ser.mat.,mekh.,
astron.,fiz.,khim. 12 no.2:51-52 '57. (MIRA 10:12)

1.Kafedra teorii uprugosti Moskovskogo universiteta.
(Elastic plates and shells)
(Plasticity)

YERSHOV, L.V.

Elastoplastic state of the excentric which was stretched on elastic shaft. Vest. Mosk. un. Ser. mat., mekh., astron., fiz. khim., 12 no.5:13-16 '57. (MIRA 11:9)

1.Kafedra teorii uprugosti Moskovskogo gosudarstvennogo universiteta. (Plasticity)

YERSHOV, L. V.

AUTHORS: Yershov, L. V., and Ivlev, D. D. (Moscow). 24-1-18/26

TITLE: On the loss of stability of rotating discs.
(O potere ustoychivosti vrashchayushchikhsya diskov).

PERIODICAL: Izvestiya Akademii Nauk, Otdeleniye Tekhnicheskikh Nauk, 1958, No.1, pp. 124-125 (USSR).

ABSTRACT: A rotating disc of uniform thickness is considered in a state of equilibrium, wherein inside a certain radius the plastic state of stress has been reached. The equations of equilibrium are set up and the boundary conditions are formulated on the periphery of the disc and at the boundary between the elastic and plastic regions. Solutions are sought in which the disc periphery is distorted from the initial circle into a sinusoidal curve. To each number of waves there corresponds a critical speed expressed as a multiplying factor of a speed parameter. The parameter is the reciprocal of the initial disc radius times the square root of the yield stress divided by the mass density. For the single wave periphery, the multiplying factor is 1.5118. This corresponds to an eccentric shape

Card 1/2 associated with a resultant force increasing the

On the loss of stability of rotating discs.

24-1-18/26

eccentricity. Thus, the disc loses its stability.
It is thought that the rotational speed so defined
is its failure speed.
There is one Russian reference.

SUBMITTED: June 30, 1957.

AVAILABLE: Library of Congress.

Card 2/2

16(1)

AUTHORS:

Ivlev, D.D. and Yershov, L.V.

SOV/55-58-2-7/35

TITLE:

On the Approximate Solution of Axial-Symmetric Elasto-Plastic Problems by the Method of the Small Parameter
(O priblizhennom reshenii osesimmetricheskikh uprugoplasticheskikh zadach metodom malogo parametra)

PERIODICAL:

Vestnik Moskovskogo Universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, V, 13, 1958, Nr 2, pp 47-56 (USSR)

ABSTRACT:

The axial-symmetric elasto-plastic problem of ideal plasticity theory is solved by the method of the small parameter, whereby the well-known solution for the plane state of deformation serves as zeroth approximation. The material is supposed to be incompressible. As an example the authors determine the elasto-plastic state of a thick-walled tube of conic form which is loaded by internal pressure. The authors thank A.Yu. Ishlinskiy for valuable indications.

There are 3 figures, and 6 references, 5 of which are Soviet, and 1 English.

ASSOCIATION: Kafedra teorii uprugosti (Chair of Elasticity Theory) [Moscow Univ.]
Card 1/2

16(1)

AUTHOR: Yershov, L.V.

SOV/55-58-3-3/30

TITLE: Elasto-Plastic State of Conic and Curved Pipes (Uprugo-plasticheskoye sostoyaniye konicheskoy i iskrivlennoy trub)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya fiziko-matematicheskikh i yestestvennykh nauk, 1958, Nr 3, pp 19-26 (USSR)

ABSTRACT: By means of the theory of small elasto-plastic deformations of Il'yushin [Ref 1] the author investigates the elasto-plastic state of a thick-walled conic pipe and of a thick-walled torus under potentially variable strain hardening. The solutions are obtained by linearization. Under supposition of ideal plasticity the two problems have already been formerly considered (D.D. Ivlev and L.V. Yershov [Ref 2, 3, 4]). There are 5 figures, and 4 Soviet references.

ASSOCIATION: Kafedra teorii uprugosti (Chair of Elasticity Theory)

SUBMITTED: April 24, 1957

Card 1/1

AUTHOR: Yershov, L. V. (Moscow)

SOV/179-59-3-22/45

TITLE: Approximate Solution of Axially Symmetric Elasto-plastic Problems (Priblizhennoye resheniye osesimmetrichnykh uprugoplasticheskikh zadach)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1959, Nr 3, pp 139-142 (USSR)

ABSTRACT: The method of small parameters (Refs 1-5) is applied to the solution of some axially symmetric elasto-plastic problems. The equilibrium equations, the Tresca-St Venant plasticity conditions, the law of plastic flow, the boundary conditions and the conditions of continuity at the elastic and plastic boundaries are set up in spherical coordinates. The stress and strain components are assumed to be represented by power series, and a solution is obtained on the basis of this assumption. The solution is specialised to apply to a sphere with an eccentric hollow subjected to an internal pressure. There are 7 Soviet references.

SUBMITTED: January 8, 1959
Card 1/1

YERSHOV, L.V. (Moskva)

Axially symmetrical loss of stability of a thickwalled spherical shell subjected to uniform pressure. PMTF no.4:81-82 N-D '60. (MIRA 14:7)
(Elastic plates and shells)

88529

10.9200
11.2313

S/179/60/000/006/027/036
E081/E135

AUTHOR: Yershov, L.V., (Moscow)

TITLE: Elasto-Plastic State Near a Spherical Cavity

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1960, No. 6, pp. 155-156

TEXT: The paper is a continuation of previous work (Ref.4). An accurate solution of the analogous plane problem has been given by L.A. Galin (Ref.1). The approximate solution obtained here is derived by the method of small parameters (Refs 2-4). The origin of the cylindrical coordinate system R, z coincides with the centre of the spherical cavity (figure). A tensile force P_1 acts at infinity in the R direction and a force P_2 acts in the z direction ($P_1 > P_2$). The boundary conditions are given by:

$$\sigma_R^\infty = P_1, \quad \sigma_z^\infty = P_2, \quad \tau_{\rho z}^\infty = 0 \quad (1)$$

and a uniformly distributed pressure p acts on the surface of the sphere (see figure). The solution is sought in a spherical
Card 1/6

88529

S/179/60/000/006/027/036
E081/E135

Elasto-Plastic State Near a Spherical Cavity

coordinate system r, θ, φ , and the material is assumed to be ideally plastic, obeying the Tresca plasticity conditions :

$$(\sigma_r - \sigma_\theta)^2 + 4\tau_{r\theta}^2 = 4, \quad \sigma_\varphi = 1/2 (\sigma_r + \sigma_\theta) + 1 \quad (2)$$

At infinity the conditions are given by:

$$\sigma_r = q_0 + q' \cos 2\theta, \quad \sigma_\theta = q_0 - q' \cos 2\theta, \quad \tau_{r\theta} = -q' \sin 2\theta \quad (3)$$

$$(q_0 = (P_1 + P_2)/2, \quad q' = (P_1 - P_2)/2)$$

The stresses are written in the form

$$\sigma_{ij} = \sigma_{ij}^0 + \sigma_{ij}',$$

assuming that the quantities containing squares of the primed components can be neglected in comparison with unity. For $P_1 = P_2$ the stresses are given by:

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Elasto-Plastic State Near a Spherical Cavity

$$\begin{aligned} \sigma_r^0 &= q_0 + \frac{4}{3} \beta_0^3 \left(1 - \frac{1}{\rho^3}\right), & \sigma_\theta^0 &= q_0 + \frac{4\beta_0^3}{3} \left(1 + \frac{1}{2} \frac{1}{\rho^3}\right), & \tau_{r\theta}^0 &= 0 \\ \sigma_r^p &= -p + 4 \ln \frac{\rho}{a}, & \sigma_\theta^p &= -p + 2 \left[1 + 2 \ln \frac{\rho}{a}\right], & \tau_{r\theta}^p &= 0 \end{aligned}$$

($\rho = r/b$, $a = a/b$, $\beta_0 = r_s^0/b$)

where a is the radius of the spherical hole, b is the radius of a certain sphere surrounding the cavity, r_s^0 is the radius of the plastic zone. Using the conditions (2), the equilibrium equations, and the boundary conditions on the surface of the cavity, the following equations are obtained:

$$\sigma_r^p = \sigma_\theta^p = \sigma_\phi^p = \tau_{r\theta}^p = 0 \quad (4)$$

The stress components in the elastic zone are obtained as:

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Elasto-Plastic State Near a Spherical Cavity

$$\begin{aligned} \sigma_r' &= \left[-3Ap^3 + 2B - \frac{18C}{p^3} + \frac{12D}{p^3} \right] P_2(\cos \theta) - \left[3A_0 - \frac{2D_0}{p^3} \right] P_0(\cos \theta) \quad (5) \\ \sigma_\theta' &= - \left[45Ap^3 + 4B + \frac{9D}{p^3} \right] P_2(\cos \theta) - \left[5Ap^3 + B + \frac{D}{p^3} \right] \frac{dP_2}{d\theta} \cot \theta - \\ &\quad - \left[3A_0 + \frac{D_0}{p^3} \right] P_0(\cos \theta) \\ \sigma_\phi' &= \left[-15Ap^3 + 2B - \frac{3D}{p^3} \right] P_2(\cos \theta) + \left[5Ap^3 + B + \frac{D}{p^3} \right] \frac{dP_2}{d\theta} \cot \theta \\ \tau_{r\theta}' &= \left[8Ap^3 + B + \frac{3C}{p^3} - \frac{4D}{p^3} \right] \frac{dP_2}{d\theta} \end{aligned}$$

(Ref.6), where $P_0(\cos \theta)$ and $P_2(\cos \theta)$ are Legendre polynomials. Satisfaction of the conditions (3) and (5) and assumption that the boundary of the plastic zone has the form:

$$r_s = \beta_0 + \beta_1(\theta),$$

the continuity conditions:

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Elasto-Plastic State Near a Spherical Cavity

$$\sigma_{\rho}'^p = \sigma_{\rho}'^e, \quad \tau_{\rho\theta}'^p = \tau_{\rho\theta}'^e, \quad \beta_1 = \frac{\beta_0}{6} [\sigma_{\theta}'^e - \sigma_{\theta}'^p] \quad \text{for } \rho = \beta_0 \quad (7)$$

Finally we obtain: for the stresses:

$$\begin{aligned} \sigma_{\rho}'^e &= \frac{4}{3} q' \left[1 - 5 \left(\frac{\beta_0}{\rho} \right)^3 + 4 \left(\frac{\beta_0}{\rho} \right)^4 \right] P_3 (\cos \theta) - \frac{1}{3} q' \left[1 - \left(\frac{\beta_0}{\rho} \right)^3 \right] P_0 (\cos \theta) \\ \sigma_{\theta}'^e &= -\frac{4}{3} q' \left[1 + \frac{7}{3} \left(\frac{\beta_0}{\rho} \right)^3 \right] P_3 (\cos \theta) + \frac{1}{3} q' \left[1 - \frac{1}{2} \left(\frac{\beta_0}{\rho} \right)^3 + \frac{4}{3} \left(\frac{\beta_0}{\rho} \right)^4 \right] P_0 (\cos \theta) \\ \tau_{\rho\theta}'^e &= \frac{2}{3} q' \left[1 + \frac{5}{3} \left(\frac{\beta_0}{\rho} \right)^3 - \frac{8}{3} \left(\frac{\beta_0}{\rho} \right)^4 \right] \frac{dP_3}{d\theta} \\ \beta_1 &= \frac{1}{54} \beta_0 q' \left[-40 P_3 (\cos \theta) + \frac{11}{2} P_0 (\cos \theta) \right] \end{aligned} \quad (8)$$

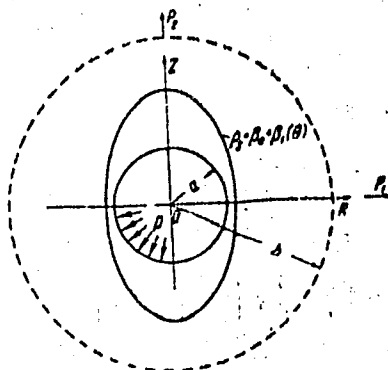
The distribution of the plastic zone is shown in the figure.
There are 1 figure and 6 Soviet references.

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